
ETERNUS Multipath Driver (Windows Version) Installation Information

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About ETERNUS Multipath Driver for Windows

ETERNUS Multipath Driver for Windows is based on Microsoft Storage Technologies - MPIO framework. ETERNUS Multipath Driver for Windows is equivalent to Device Specific Module (DSM) in MPIO framework.

Supported Operation System (OS) Versions

This table shows the versions of Windows supported by ETERNUS Multipath Driver.

Supported OS Versions	MPD Version Level
Microsoft® Windows Server® 2003, Standard Edition (32-bit) Microsoft® Windows Server® 2003, Enterprise Edition (32-bit) Microsoft® Windows Server® 2003, Datacenter Edition (32-bit) Microsoft® Windows Server® 2003 R2, Standard Edition (32-bit) Microsoft® Windows Server® 2003 R2, Enterprise Edition (32-bit) Microsoft® Windows Server® 2003 R2, Datacenter Edition (32-bit) Microsoft® Windows Storage Server® 2003 R2, Standard Edition (32-bit) Microsoft® Windows Storage Server® 2003 R2, Enterprise Edition (32-bit) Microsoft® Windows Unified Data Storage Server 2003 Standard Edition (32-bit) Microsoft® Windows Unified Data Storage Server 2003 Enterprise Edition (32-bit)	V2.0L10 or later *1
Microsoft® Windows Server® 2003, Standard x64 Edition Microsoft® Windows Server® 2003, Enterprise x64 Edition Microsoft® Windows Server® 2003, Datacenter x64 Edition Microsoft® Windows Server® 2003 R2, Standard x64 Edition Microsoft® Windows Server® 2003 R2, Enterprise x64 Edition Microsoft® Windows Server® 2003 R2, Datacenter x64 Edition Microsoft® Windows Storage Server® 2003 R2, Standard x64 Edition Microsoft® Windows Storage Server® 2003 R2, Enterprise x64 Edition Microsoft® Windows Unified Data Storage Server 2003 Standard x64 Edition Microsoft® Windows Unified Data Storage Server 2003 Enterprise x64 Edition	V2.0L11 or later
Microsoft® Windows Server® 2003, Enterprise Edition for Itanium-based Systems Microsoft® Windows Server® 2003, Datacenter Edition for Itanium-based Systems	V2.0L10 or later *1
Microsoft® Windows Server® 2008 Standard Microsoft® Windows Server® 2008 Enterprise Microsoft® Windows Server® 2008 Datacenter Microsoft® Windows Server® 2008 for Itanium-based Systems	V2.0L14 or later *2
Microsoft® Windows Server 2008 R2 Standard Microsoft® Windows Server 2008 R2 Enterprise Microsoft® Windows Server 2008 R2 Datacenter Microsoft® Windows Server 2008 R2 for Itanium-based Systems	V2.0L16 or later *2

*1: V2.0L11 or later version is required in the environment of MSCS with SP1 or later.

*2: x86(32-bit), x64, IA64(Itanium) are included.

support Hyper-V, see also [Hyper-V environment](#).

For Windows NT4.0/Windows 2000, GR Multipath Driver is included in the product CD.

Refer to "[GR Multipath Driver Installation Information - Windows version](#)" for detail.

Supported Disk Storage Systems

ETERNUS Multipath Driver supports the following disk storage systems.

- ETERNUS DX60
- ETERNUS DX80
- ETERNUS DX400 series
- ETERNUS DX8000 series
- ETERNUS2000
- ETERNUS3000
- ETERNUS4000
- ETERNUS6000
- ETERNUS8000
- ETERNUS GR series

ETERNUS DX60, ETERNUS DX80

Disk Storage System	ETERNUS Multipath Driver Product Names	Version Level
ETERNUS DX60 ETERNUS DX80	for Entry Model for Standard Model for Enterprise Model	V2.0L15 or later

ETERNUS DX400 series

Disk Storage System	ETERNUS Multipath Driver Product Names	Version Level
ETERNUS DX400 series	for Standard Model for Enterprise Model	V2.0L15 or later

ETERNUS DX8000 series

Disk Storage System	ETERNUS Multipath Driver Product Names	Version Level
ETERNUS DX8000 series up to 2 Paths	for Standard Model for Enterprise Model	V2.0L15 or later
ETERNUS DX8000 series	for Enterprise Model	V2.0L15 or later

ETERNUS2000

Disk Storage System	ETERNUS Multipath Driver Product Names	Version Level
ETERNUS2000	for Entry Model for Standard Model for Enterprise Model	V2.0L13 or later

ETERNUS3000

Disk Storage System	ETERNUS Multipath Driver Product Names	Version Level
ETERNUS3000 model 50 ETERNUS3000 model 80 ETERNUS3000 model 100	for Entry Model for Standard Model for Enterprise Model	V2.0L10 or later
ETERNUS3000 model 200 ETERNUS3000 model 300 ETERNUS3000 model 400 ETERNUS3000 model 500 ETERNUS3000 model 600 ETERNUS3000 model 700	for Standard Model for Enterprise Model	V2.0L10 or later

ETERNUS4000

Disk Storage System	ETERNUS Multipath Driver Product Names	Version Level
ETERNUS4000 model 80 ETERNUS4000 model 100	for Entry Model for Standard Model for Enterprise Model	V2.0L12 or later
ETERNUS4000 model 300 ETERNUS4000 model 500	for Standard Model for Enterprise Model	V2.0L12 or later
ETERNUS4000 model 400 ETERNUS4000 model 600		V2.0L14 or later

ETERNUS6000

Disk Storage System	ETERNUS Multipath Driver Product Names	Version Level
ETERNUS6000 up to 2 Paths	for Standard Model for Enterprise Model	V2.0L10 or later
ETERNUS6000	for Enterprise Model	V2.0L10 or later

ETERNUS8000

Disk Storage System	ETERNUS Multipath Driver Product Names	Version Level
ETERNUS8000 model 700 up to 2 Paths ETERNUS8000 model 900 up to 2 Paths ETERNUS8000 model 1100 up to 2 Paths ETERNUS8000 model 2100 up to 2 Paths	for Standard Model for Enterprise Model	V2.0L12 or later
ETERNUS8000 model 800 up to 2 Paths ETERNUS8000 model 1200 up to 2 Paths ETERNUS8000 model 2200 up to 2 Paths		V2.0L14 or later
ETERNUS8000 model 700 ETERNUS8000 model 900 ETERNUS8000 model 1100 ETERNUS8000 model 2100	for Enterprise Model	V2.0L12 or later
ETERNUS8000 model 800 ETERNUS8000 model 1200 ETERNUS8000 model 2200		V2.0L14 or later

ETERNUS GR series

Disk Storage System	ETERNUS Multipath Driver Product Names	Version Level
GR710	for Entry Model for Standard Model for Enterprise Model	V2.0L10 or later
GR720 GR730	for Standard Model for Enterprise Model	V2.0L10 or later
GR740 Up to 2 Paths GR820 Up to 2 Paths GR840 Up to 2 Paths	for Standard Model for Enterprise Model	V2.0L10 or later
GR740 GR820 GR840	for Enterprise Model	V2.0L10 or later

Related Products Requirements

Supported Related Products are as follows:
For the combinations of servers, HBAs, and topologies, please contact us.

Related Hardware Product Requirements

- FC card

Server	HBAs	ETERNUS Multipath Driver Version Level
PRIMERGY	<ul style="list-style-type: none"> • S26361-F2624-E1 • S26361-F2843-E1/ S26361-F2843-E201/ PG-FC106 • S26361-F3141-E10/ S26361-F3141-E210/ PG-FC107 • S26361-F3141-E1/ PG-FC201 • S26361-F3306-E1/ S26361-F3306-E201/ PG-FC202 • S26361-F3961-E1/ S26361-F3961-E201/ PG-FC203/ PG-FC203L • S26361-F3961-E2/ S26361-F3961-E202/ PG-FC204/ PG-FC204L • S26361-F3023-E1/ S26361-F3023-E2/ S26361-F3023-L2/ PG-FCD101/ PG-FCD102 • S26361-F3306-E601/ S26361-F3306-L601/ PG-FCD201 • MC-FC82E/ PG-FCD202 	V2.0L10 or later
PRIMEQUEST	MC-08FCx1	V2.0L11 or later
3rd party PC servers	Emulex FC Cards Qlogic FC Cards	V2.0L10 or later

- SAS card

Server	HBAs	ETERNUS Multipath Driver Version Level
PRIMERGY	PG-228B/BL	V2.0L14 or later
3rd party PC servers	LSI Logic SAS Cards	V2.0L14 or later

• iSCSI

Server	HBA's	ETERNUS Multipath Driver Version Level
PRIMERGY	S26361-F3011-E1 etc.	V2.0L12 or later
3rd party PC servers	Intel Pro/1000MT	V2.0L12 or later
	Qlogic iSCSI Cards	V2.0L10 or later

• Topology

Interface	Topology	ETERNUS Multipath Driver Version Level
FC	FC-AL	V2.0L10 or later
	Fabric	V2.0L10 or later
SAS	Point-to-Point	V2.0L14 or later
	Switch	not supported
iSCSI	Point-to-Point	V2.0L10 or later
	Switch	V2.0L10 or later

Related Software Product Requirement

• Clustering Software

Clustering Software	ETERNUS Multipath Driver Version Level
SafeCLUSTER	V2.0L10 or later
MSCS (Not applying Windows Server 2003 SP1)	V2.0L10 or later
MSCS (Applying Windows Server 2003 SP1 or later)	V2.0L11 or later
WSFC (Windows Server 2008)	V2.0L14 or later
WSFC (Windows Server 2008 R2)	V2.0L16 or later

MSCS: Microsoft Cluster Service

WSFC: Windows Server Failover Cluster

• Microsoft iSCSI Software Initiator

iSCSI Software Initiator Version	ETERNUS Multipath Driver Version Level
Version 2.02 or later	V2.0L12 or later

• HBA Drivers

HBA Drivers	ETERNUS Multipath Driver Version Level
SCSIport Miniport Driver	V2.0L10 or later
Storport Miniport Driver ^(*1)	V2.0L10 or later

*1: When using Storport Miniport Driver, Windows Server 2003 Service Pack(SP1 or later) is required.

Channel Adapter ID and Connection Points

CAID is the information displayed on the Multipath Manager window and it can identify the location of the port in the disk storage system.

CAID is different from a physical port number. To confirm a physical port number, refer to the manual of the disk storage system. Please note that the port position and the physical port number depend on the type of disk storage system.

ETERNUS DX60, ETERNUS DX80 rear view

[FC / iSCSI]



CM: Controller Module, PSU: Power Supply Unit

 : When using 2 port CM

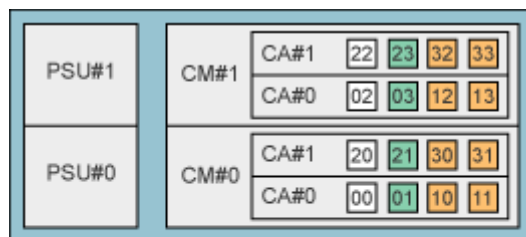
[SAS]



CM: Controller Module, PSU: Power Supply Unit

 : When using 2 port CM

ETERNUS DX400 series rear view

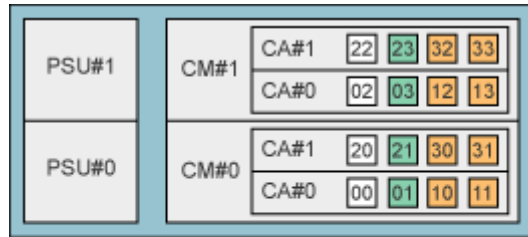


CM : Controller Module, PSU : Power Supply Unit

 When using 2port-CA

 When using 4port-CA

ETERNUS DX8100 rear view



CM : Controller Module, PSU : Power Supply Unit
■ When using 2port-CA
■ When using 4port-CA

ETERNUS DX8400, ETERNUS DX8700 rear view



CM : Controller Module
■ When using 4Port-CA

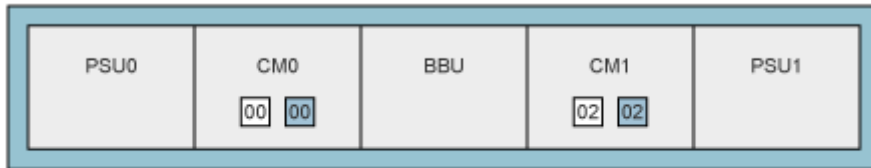
ETERNUS2000 rear view

[FC / iSCSI]



CM: Controller Module, PSU: Power Supply Unit, BBU: Buttery Backup Unit
 ■ : When using 2 port CM

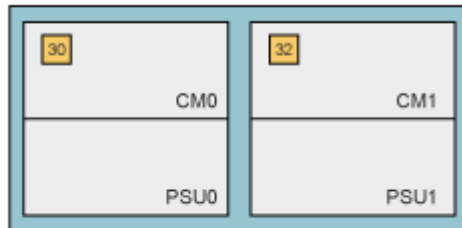
[SAS]



CM: Controller Module, PSU: Power Supply Unit, BBU: Buttery Backup Unit
 ■ : When using 2 port CM

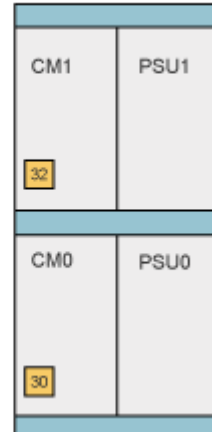
ETERNUS3000 model 50 rear view

[Rack mount]



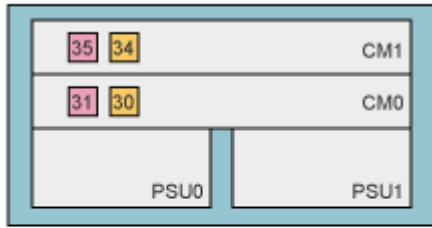
CM: Controller Module, PSU: Power Supply Unit
 ■ CAID

[Pedestal]

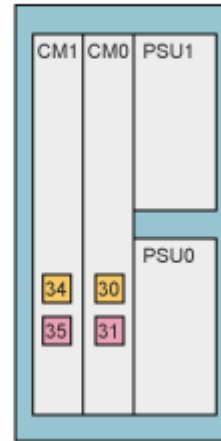


ETERNUS3000 model 80/100 rear view

[Rack mount]



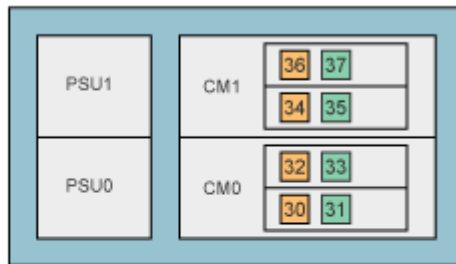
[Pedestal]



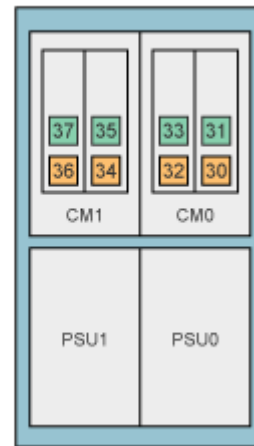
CM: Controller Module, PSU: Power Supply Unit
 ■ When using 2 port-CM ■ CAID

ETERNUS3000 model 200/300/400/500/600/700 rear view

[Floor stand / Rack mount]



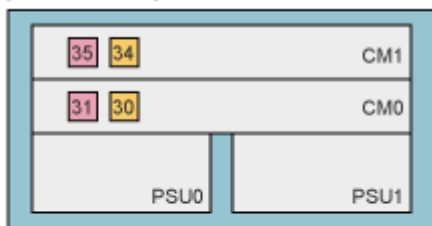
[Pedestal]



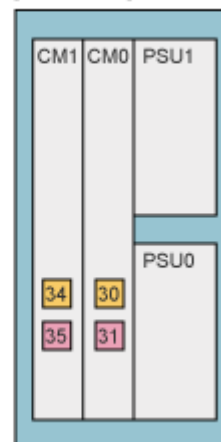
CM: Controller Module, PSU: Power Supply Unit
 ■ When using 2 port-CA ■ CAID

ETERNUS4000 model 80/100 rear view

[Rack mount]

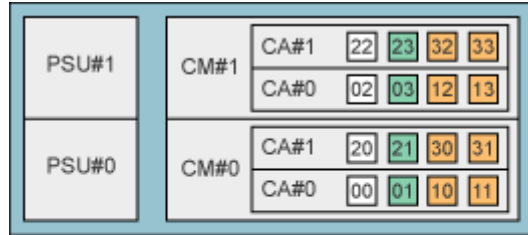


[Pedestal]



CM: Controller Module, PSU: Power Supply Unit
 ■ When using 2 port-CM ■ CAID

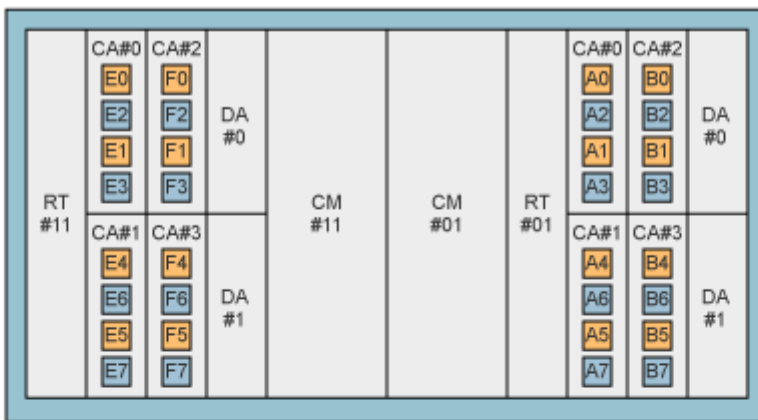
ETERNUS4000 model 300/400/500/600 rear view



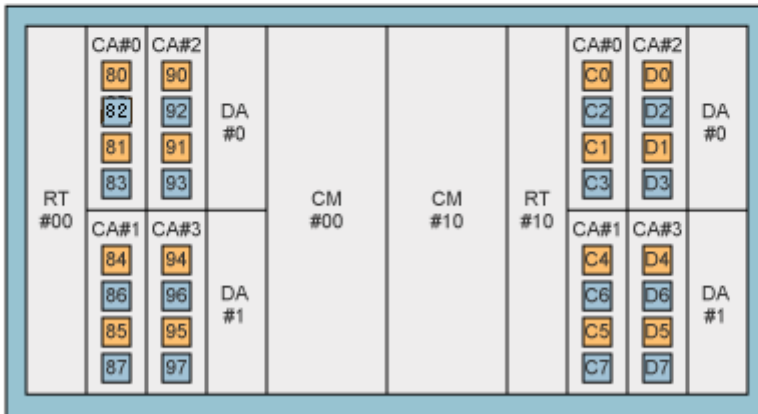
CM : Controller Module, PSU : Power Supply Unit
■ When using 2port-CA
■ When using 4port-CA

ETERNUS6000 front and rear view

[Front view]

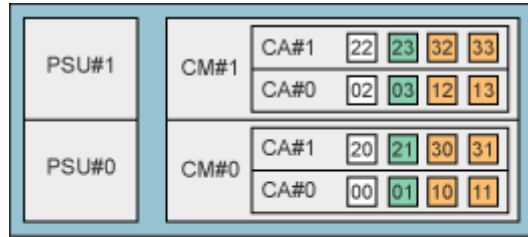


[Rear view]



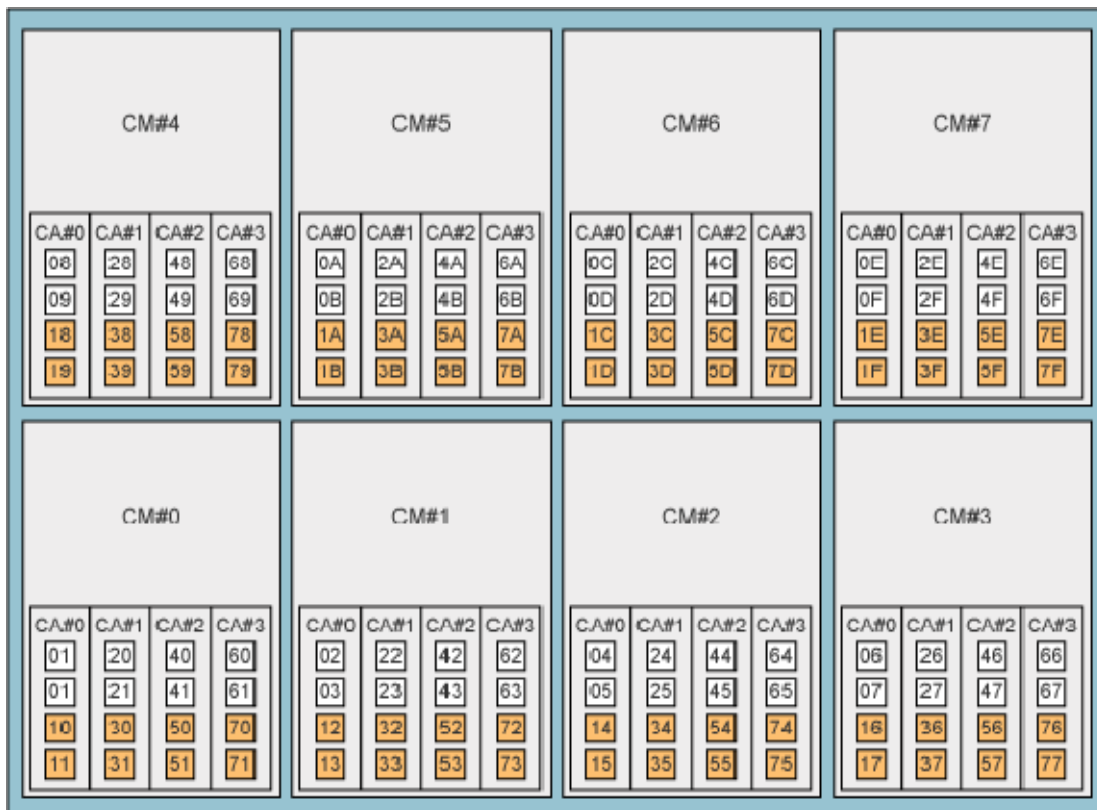
■ When using 4Port-CA ■ CAID

ETERNUS8000 model 700/800 rear view



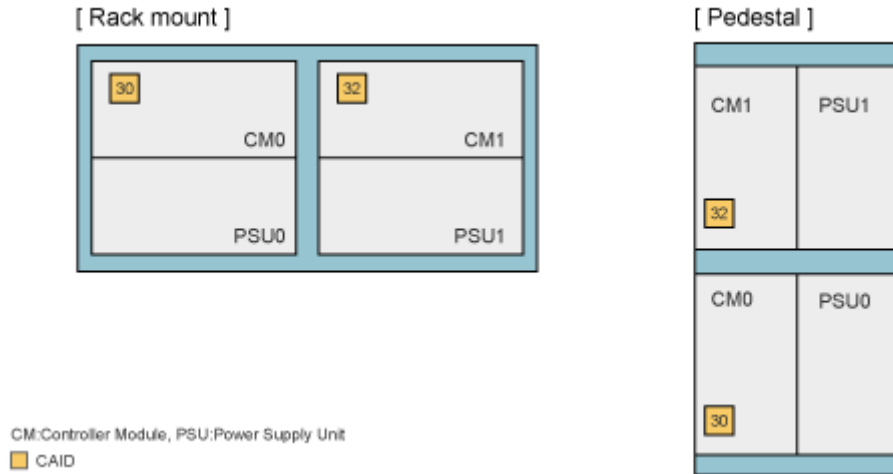
CM : Controller Module, PSU : Power Supply Unit
■ When using 2port-CA
■ When using 4port-CA

ETERNUS8000 model 900/1100/1200/2100/2200 rear view

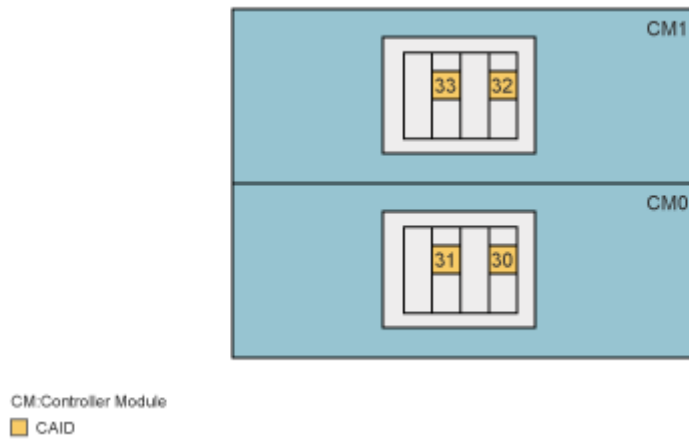


CM : Controller Module
■ When using 4Port-CA

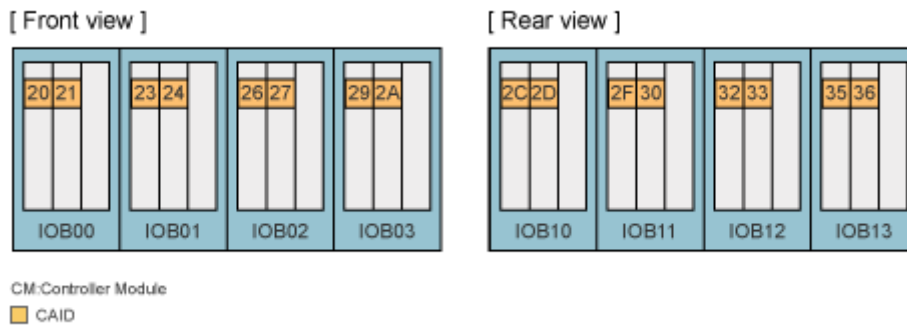
GR710 rear view



GR720, GR730 rear view



GR740, GR820, GR840 rear view



Assigned-/ Non-assigned-CM Type Disk Storage Systems

For ETERNUS and GR Storage series, there are two system types: “Assigned-CM” and “Non-assigned-CM.” With Assigned-CM disk storage systems, the main access path for each LU is assigned to a particular controller. With Non-assigned-CM disk storage systems, there are no assigned LU access paths as such.

With “Assigned-CM” type disk storage systems, the path connected to the assigned controller is active. Paths to other controllers are on standby. With “Non-assigned-CM” type disk storage systems, all paths are active and used for access.

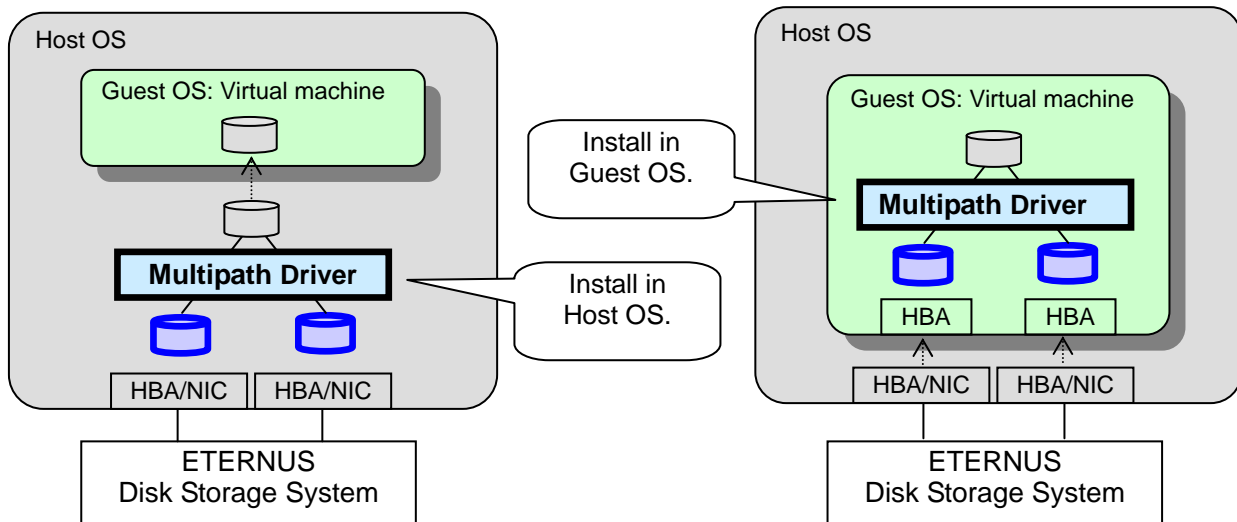
The table below shows the “Assigned-CM” and “Non-assigned-CM” disk storage systems.

Load balancing/fail over performance can differ depending on “Assigned-CM” and “Non-assigned-CM” use and the number of paths employed. For details, refer to the supplied product manual.

Assigned-CM type	ETERNUS DX60, ETERNUS DX80, ETERNUS DX400 series, ETERNUS2000, ETERNUS3000, ETERNUS4000, GR710, GR720, GR730
Non-assigned-CM type	ETERNUS DX8000 series, ETERNUS6000, ETERNUS8000, GR740, GR820, GR840

Hyper-V environment

ETERNUS Multipath Driver must be installed in the OS which see the multipath connections to the LUNs.



ETERNUS LUN is visible on the Host OS.

ETERNUS LUN is invisible on the Host OS.

The figure above to the left is for a LUN on disk storage system that is recognized on Host OS. In a configuration like this, ETERNUS Multipath Driver must be installed in Host OS.

The figure above to the right is for a LUN on disk storage system is not recognized on Host OS. The Guest OS directly recognizes the LUN on disk storage system without going through Host OS. For example, if you install MS iSCSI Initiator in Guest OS, the right figure is applied. ETERNUS Multipath Driver must be installed in the Guest OS.

CAUTION

On the left figure, even if the LUN on the Host OS is configured to be seen by the Guest OS with Hyper-V pass-through disk function, ETERNUS Multipath Driver does not need to be installed in Guest OS.

The supported Host OS of ETERNUS Multipath Driver.

- Microsoft Windows Server 2008 Standard (x64)
- Microsoft Windows Server 2008 Enterprise (x64)
- Microsoft Windows Server 2008 Datacenter (x64)
- Microsoft Windows Server 2008 R2 Standard (x64)
- Microsoft Windows Server 2008 R2 Enterprise (x64)
- Microsoft Windows Server 2008 R2 Datacenter (x64)

The supported Guest OS of ETERNUS Multipath Driver.

- Microsoft Windows Server 2003, Standard Edition (32-bit)
- Microsoft Windows Server 2003, Enterprise Edition (32-bit)
- Microsoft Windows Server 2003, Datacenter Edition (32-bit)
- Microsoft Windows Server 2003 R2, Standard Edition (32-bit)
- Microsoft Windows Server 2003 R2, Enterprise Edition (32-bit)
- Microsoft Windows Server 2003 R2, Datacenter Edition (32-bit)
- Microsoft Windows Server 2003, Standard x64 Edition
- Microsoft Windows Server 2003, Enterprise x64 Edition
- Microsoft Windows Server 2003, Datacenter x64 Edition
- Microsoft Windows Server 2003 R2, Standard x64 Edition
- Microsoft Windows Server 2003 R2, Enterprise x64 Edition
- Microsoft Windows Server 2003 R2, Datacenter x64 Edition
- Microsoft Windows Server 2008 Standard (32-bit, x64)
- Microsoft Windows Server 2008 Enterprise (32-bit, x64)

- Microsoft Windows Server 2008 Datacenter (32-bit, x64)
- Microsoft Windows Server 2008 R2 Standard (x64)
- Microsoft Windows Server 2008 R2 Enterprise (x64)
- Microsoft Windows Server 2008 R2 Datacenter (x64)

Notes

1. LUN mapping

If LUN mapping in the disk storage system is not set properly, Windows may not recognize LUNs correctly. For proper LUN mapping, the LUN numbers Windows recognizes must be in ascending order from LUN 0.

2. HBA driver settings

If the HBA driver is not set properly, Windows may not recognize LUNs correctly. For proper HBA driver settings, follow the instructions written in the “Disk Storage System Server Connection Guide” or “User Guide – Server Setting Guide” that comes with the disk storage system.

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